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Douglas P. Scott, Director

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Illinois EPA UPDATE #1:

Wood River Refinery West Fence Line Environmental Investigations
Roxana, Illinois

Background:
Illinois Environmental Protection Agency (Illinois EPA) is requiring Shell Oil Products US (Shell) to investigate and adequately remediate petroleum product releases at and near the Conoco-Phillips Wood River Refinery in Roxana, Illinois. One of the release locations is along a portion of the western boundary of the refinery; another is near the intersection of Rand Ave. and Central St. The area potentially affected by these two releases is bounded to the north by 1st St., to the south by Rand Ave., to the west by Central St., and to the east by Chaffer St. Shell owned the refinery for many years and is responsible for addressing certain environmental issues there.

Shell has conducted initial environmental investigations in this area and found relatively high concentrations of certain petroleum chemicals, including benzene, in subsurface soil vapors near the refinery boundary and dissolved hydrocarbons in groundwater at several specific locations.

Additional Investigation to Begin:
These chemicals have the potential to migrate through soils as vapor, entering buildings through earthen crawlspaces, cracked floor slabs or cracks in basements. The Illinois EPA and Illinois Department of Public Health (IDPH) are concerned about the health of those who could be exposed to these vapors. Because of the potential for vapor intrusion into homes and other buildings, the Illinois EPA has directed Shell to investigate whether this is a problem in the affected area of Roxana.

Shell must sample at selected homes in the area and at the Roxana Public Works facilities to determine if petroleum vapors are entering the buildings from the soils below. Shell's contractor, URS, will begin contacting homeowners and residents at the beginning of February to request permission to sample and hopes to begin sampling for chemical vapors at selected residences in the areas of concern during February.

A fact sheet discussing vapor intrusion is available from the IDPH web site at: http://www.idph.state.il.us/envhealth/factsheets/vaporintrusionfs.htm

What will happen at these homes?
Shell's vapor intrusion sampling will initially focus on 14 selected homes close to the fence line and near where soil and/or groundwater contaminant concentrations are highest. Letters will be sent to the selected homes' owners and residents requesting their participation. The letters will also offer the opportunity for one representative of Shell and one from the Illinois EPA or IDPH to come to the home together to explain the sampling procedure.

At participating homes, URS will collect three soil gas samples from below the house slab (in slab-on-grade construction) or below the basement floor, and samples of air from the basement and from the first floor. IDPH will send homeowners/residents their sample analysis results and an interpretation letter

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approximately 60 days after the sample collection date. While participation is completely voluntary, the Illinois EPA and IDPH strongly encourage those who are contacted to agree to this free sampling.

Where can I find out more about the sampling plan?

Shell provided a Vapor Intrusion Investigation work plan to the Illinois EPA on September 20, 2010. After careful review of the work plan, and in consultation with IDPH, the Illinois EPA provided its 10-page conditional approval letter to Shell on November 15, 2010. More detail concerning the vapor intrusion sampling can be found in this work plan and the approval letter with its conditions; both are posted at the web site developed to keep the community up-to-date on the status of the project: http://roxanainvestigation.urs-stl.net/

What will happen if Shell finds a problem at any of these homes?

If vapor concentrations above health-based levels of concern are found; Illinois EPA will require Shell to take appropriate action to remedy the problem. Benzene is the primary chemical of concern for human health impacts if these vapors are migrating into homes.

Illinois EPA will decide whether to require Shell to expand its vapor intrusion investigation based on the data collected. The goal of further investigation would be to determine the extent of a demonstrated vapor intrusion problem in the community and to address it.

What else is Shell doing to address this contamination?

Beyond investigating and potentially addressing any residential vapor intrusion problems, Shell is taking steps to address these chemical releases. These steps, also subject to Illinois EPA review and approval, include increasing the removal of free product from groundwater along the western property boundary of the refinery and designing a soil vapor extraction system to be installed along the fence line. Both of these efforts will help to reduce or remove the petroleum vapors and prevent them from migrating toward homes. Shell is also installing additional groundwater wells and vapor monitoring points west of the refinery property line to help further delineate the extent of the soil vapor contamination and more fully characterize the extent of groundwater contamination in the area of concern.

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